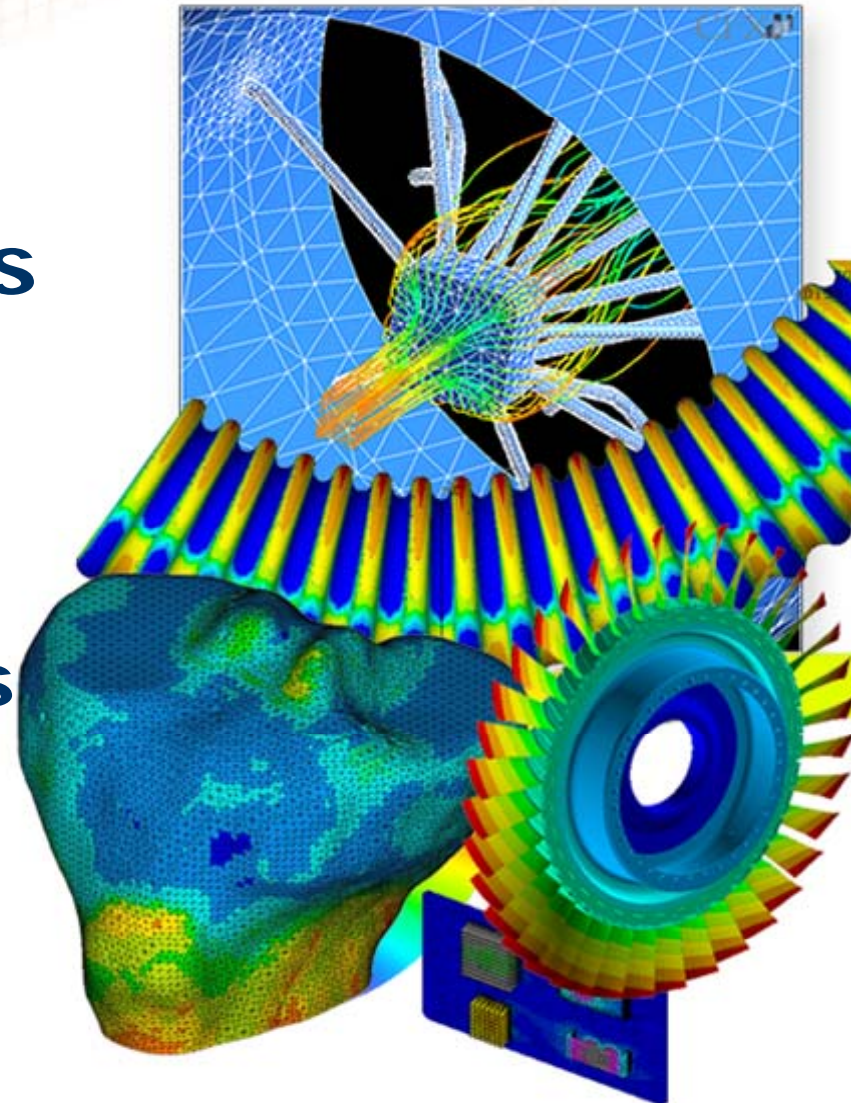


Using Your Workbench Model as a Template for Multiple Designs

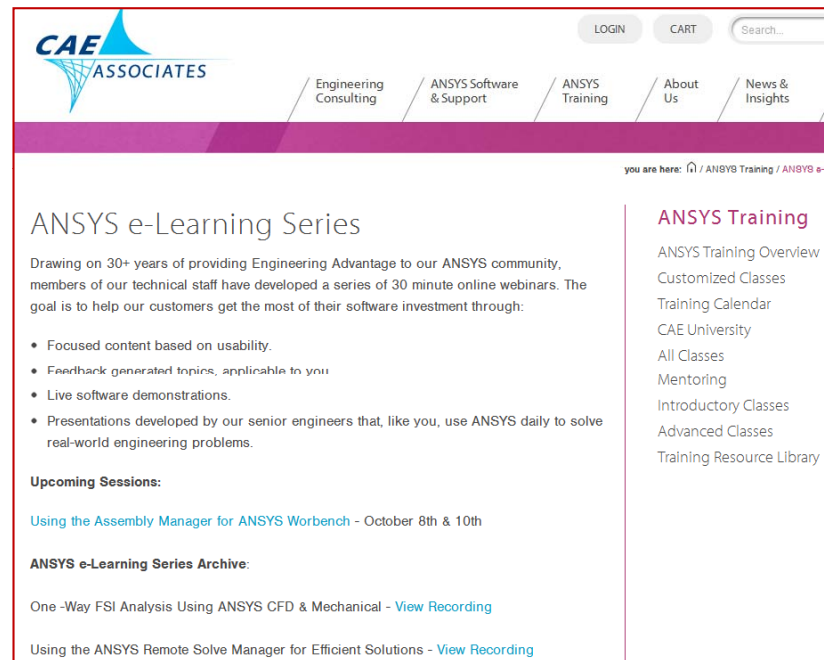
CAEA eLearning Series

P. Cunningham

11/2013



- This presentation is part of a series of e-Learning webinars offered by CAE Associates.
- You can view many of our previous e-Learning sessions on our website at www.caeai.com. Just search on e-Learning at the top of the page.

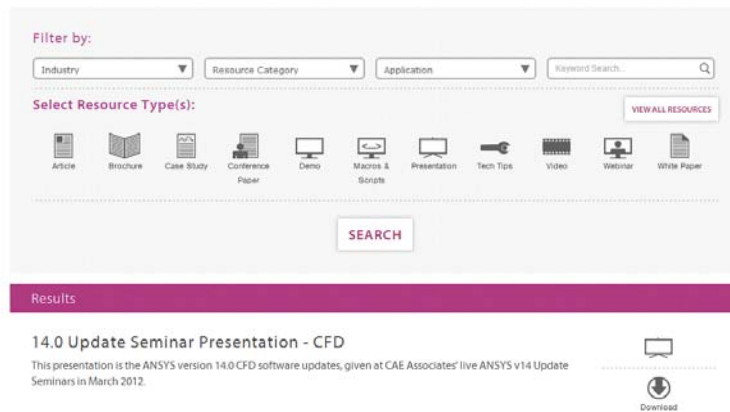


- If you are a New Jersey or New York resident you can earn continuing education credit for attending the full webinar and completing a survey at the conclusion of the presentation.

All New caeai.com!



- Expanded Resource Library with over 250 items and counting!



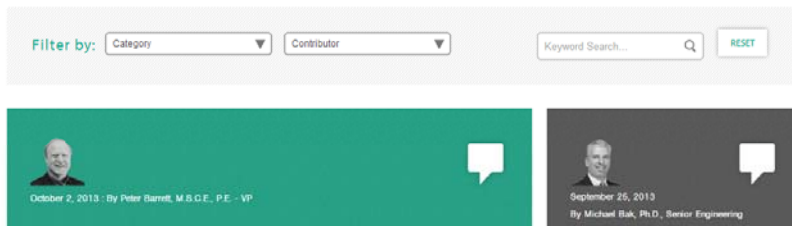
- Easier Training Registration and New Calendar View



- New Engineering Advantage Blog

Engineering Advantage Blog

Tap into the thinking of some of the world's leading simulation experts. Our consulting engineers share helpful tips and insights into how they've solved significant engineering challenges.

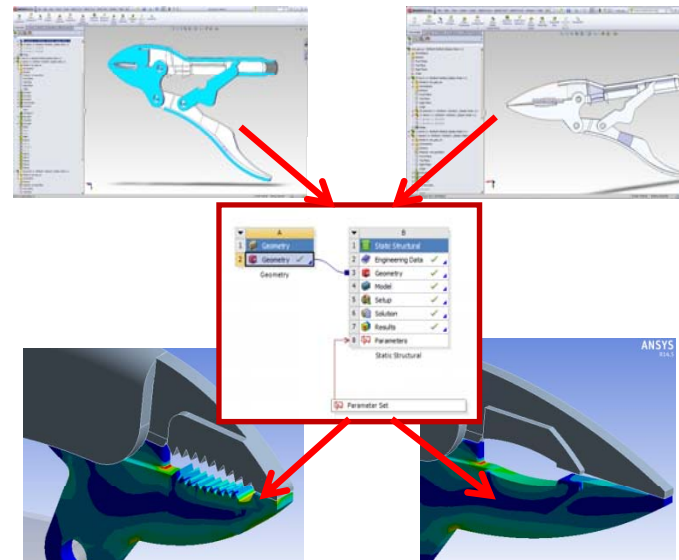


- CAE University, to help you decide which group of training classes are best for your application.

Getting the most from your WB model














- Since it's conception over a decade ago ANSYS Workbench has provided a means to analyze parameter driven design variations with a click of the **Update** button.
- With the addition of the Named Selection Toolbar at the CAD level you can develop finite element models in the Mechanical environment that can be used to evaluate multiple designs that share similar design criteria.
- With a little bit of fore thought and preparation your Workbench can easily be set up and used as templates for different products designs and/or products.



Getting the most from your WB model



- The key to accomplishing this is to develop a consistent nomenclature for the important characteristics of your model:
 1. Name your CAD parameters in a way that logically applies to similar designs (products of the same design family).

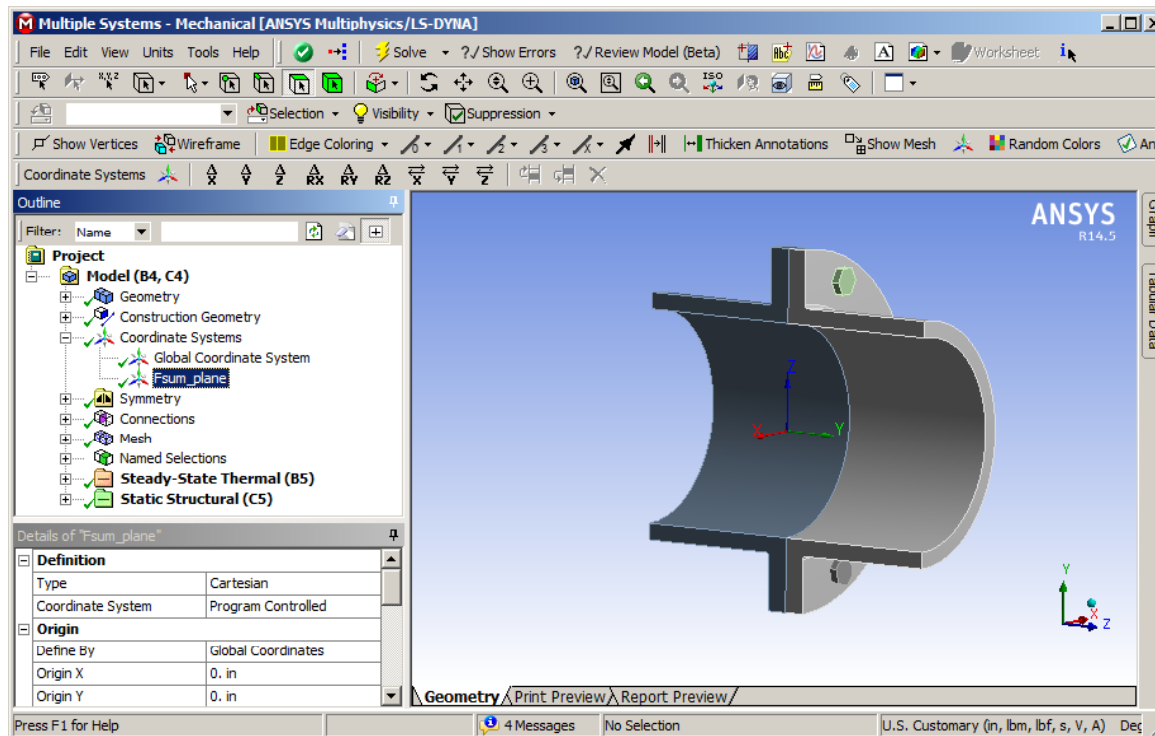
Outline: No data				
	A	B	C	D
1	ID	Parameter Name	Value	Unit
2	[-] Input Parameters			
3	[-]  Geometry (A1)			
4	 P1	flange_OD	110	
5	 P2	pipe_OD	75	
6	 P3	pipe_length	100	
7	 P11	pipe_wall_thickness	5	
8	 P14	bolt_dia	10	
9	 P6	bolt_circ_radius	95	
10	 P7	bolt_hole_dia	12.5	
11	 P13	number_of_bolts	8	
12	 P9	pipe_flange_radius	2	
13	 P10	flange_thickness	12.5	

Getting the most from your WB model



- The key to accomplishing this is to develop a consistent nomenclature for the important characteristics of your model:
 2. Include any coordinate systems from the CAD model that you intend to use in Mechanical.

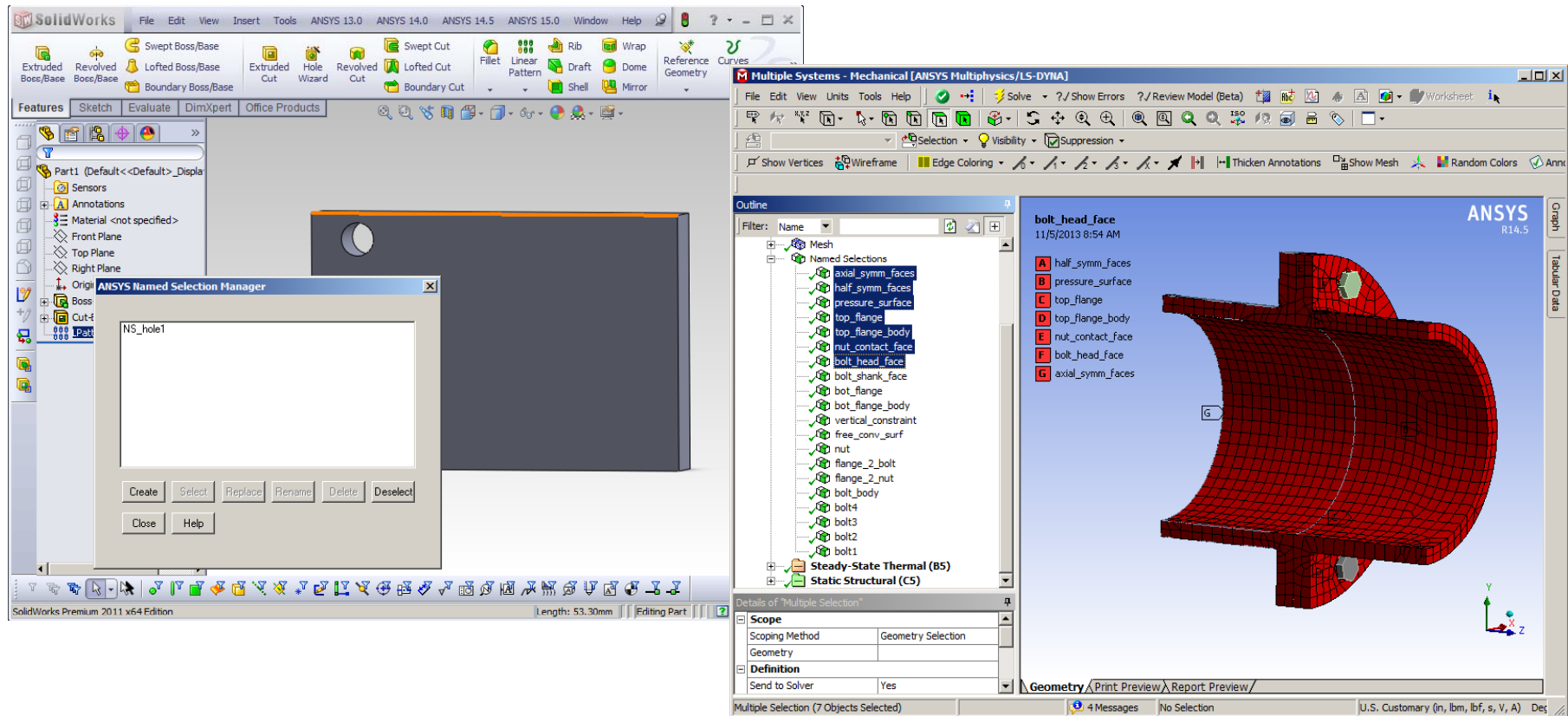
Coordinate systems can be used to define: Construction Geometry, directional loading, and directional results items.



Getting the most from your WB model



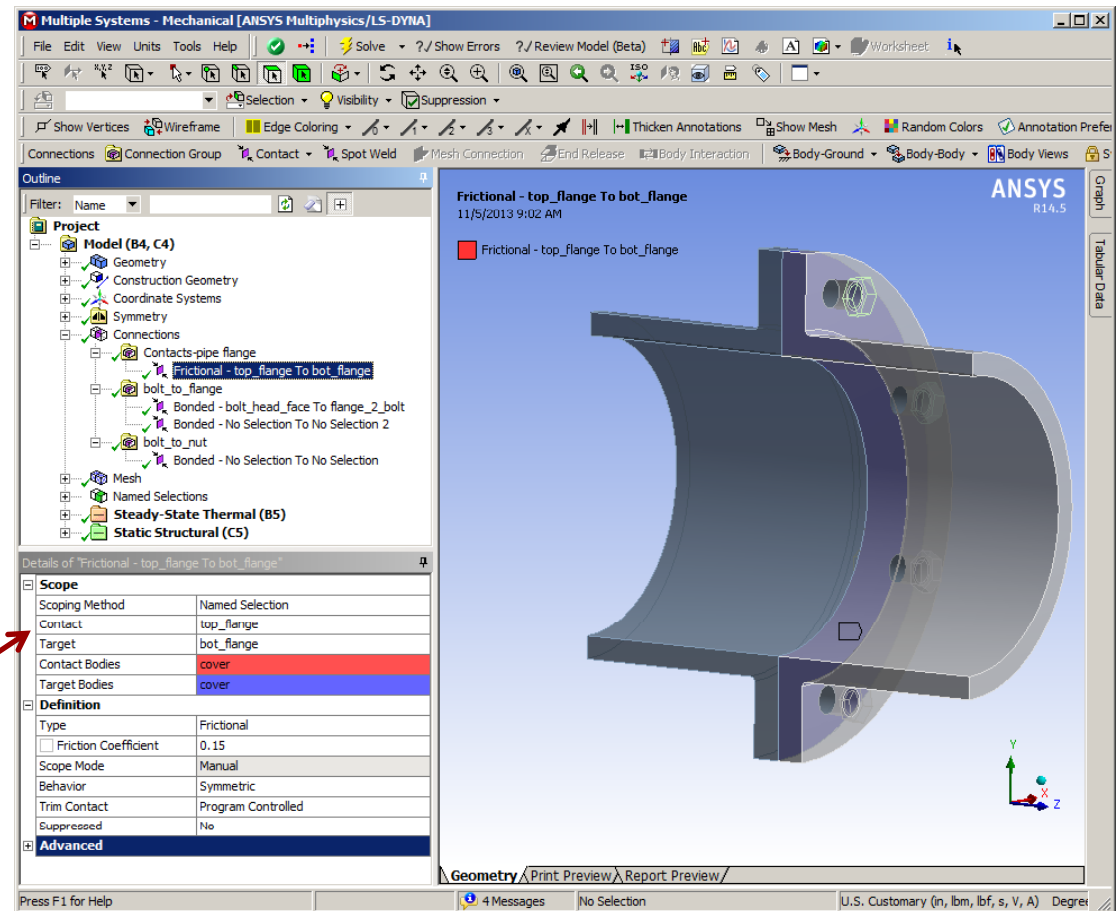
- The key to accomplishing this is to develop a consistent nomenclature for the important characteristics of your model:
 3. Use the Named Selection toolbar that Workbench provides to the CAD interface to locate key areas of the geometry where you will be applying the analysis settings.



Getting the most from your WB model



- Items that can be defined by Named Selections include:
 - Symmetry Regions
 - Contact Connections
 - Joint Connections
 - Mesh Controls
 - Loads and Supports
 - Imported Loads
 - Scoped solution items



Getting the most from your WB model

- With a consistent set of parameter and Named Selection names your Mechanical model can be used as a template.
- Simply replace the geometry with the new model and update.

